

## CLAIMS

What is claimed is:

1. A method for providing and configuring secure communication links, the method comprising:

determining any one usable media pair from all existing media pairs of a first device;

selecting any one channel from all existing channels, said selected any one channel being different from a general channel assignment corresponding to said determined any one usable media pair; and

assigning said selected any one channel to said any one media pair.

2. The method according to claim 1, further comprising notifying a second device of said assigned any one channel which corresponds to said any one media pair.

3. The method according to claim 2, further comprising cross-connecting a corresponding channel and media pair for said second device, said cross-connected channel and media pair being equivalent to said selected any one channel assigned to said any one media pair.

4. The method according to claim 1, further comprising negotiating said assignment of said selected any one channel to said any one media pair.

5. The method according to claim 1, further comprising selecting from a plurality of predetermined channel and media pair assignments, a particular one of said channel and media pair assignment.

6. The method according to claim 1, further comprising:  
designating a first combination of said channel assigned to said any one media pair as a communication channel and media pair; and  
designating a second combination of said channel assigned to said any one media pair as a control channel and media pair.

7. The method according to claim 6, further comprising securely transferring communication traffic via said communication channel and media pair.

8. The method according to claim 7, further comprising securely transferring control information via at least one of said communication channel and media pair.

9. The method according to claim 8, further comprising:  
monitoring at least one of said communication channel and media pair by a second device; and  
determining said selected any one channel assigned to said any one media pair.

10. The method according to claim 9, wherein said control information is at least one of authentication information, encryption information, channel setup information and link provisioning and link maintenance information.

11. A machine-readable storage having stored thereon, a computer program having at least one code section for providing and configuring secure communication links, the at least one code section being executable by a machine for causing the machine to perform steps comprising:

determining any one usable media pair from all existing media pairs of a first device;

selecting any one channel from all existing channels, said selected any one channel being different from a general channel assignment corresponding to said determined any one usable media pair; and

assigning said selected any one channel to said any one media pair.

12. The machine-readable storage according to claim 11, further comprising code for notifying a second device of said assigned any one channel which corresponds to said any one media pair.

13. The machine-readable storage according to claim 12, further comprising code for cross-connecting a corresponding channel and media pair for said second

device, said cross-connected channel and media pair being equivalent to said selected any one channel assigned to said any one media pair.

14. The machine-readable storage according to claim 11, further comprising code for negotiating said assignment of said selected any one channel to said any one media pair.

15. The machine-readable storage according to claim 11, further comprising code for selecting from a plurality of predetermined channel and media pair assignments, a particular one of said channel and media pair assignment.

16. The machine-readable storage according to claim 11, further comprising:  
code for designating a first combination of said channel assigned to said any one media pair as a communication channel and media pair; and

code for designating a second combination of said channel assigned to said any one media pair as a control channel and media pair.

17. The machine-readable storage according to claim 16, further comprising code for securely transferring communication traffic via said communication channel and media pair.

18. The machine-readable storage according to claim 17, further comprising code for securely transferring control information via at least one of said communication channel and media pair.

19. The machine-readable storage according to claim 18, further comprising:  
code for monitoring at least one of said communication channel and media pair by a second device; and  
code for determining said selected any one channel assigned to said any one media pair.

20. The machine-readable storage according to claim 19, wherein said control information is at least one of authentication information, encryption information, channel setup information and link provisioning and link maintenance information.

21. A system for providing and configuring secure communication links, the system comprising:

at least one controller adapted to determine any one usable media pair from all existing media pairs of a first device;

at least one selector adapted to select any one channel from all existing channels, said selected any one channel being different from a general channel assignment corresponding to said determined any one usable media pair; and

said at least one controller adapted to assign said selected any one channel to said any one media pair.

22. The system according to claim 21, wherein said at least one controller is adapted to notify a second device of said assigned any one channel which corresponds to said any one media pair.

23. The system according to claim 22, wherein said at least one selector is adapted to cross-connect a corresponding channel and media pair for said second device, said cross-connected channel and media pair being equivalent to said selected any one channel assigned to said any one media pair.

24. The system according to claim 21, wherein said at least one controller is adapted to negotiate said assignment of said selected any one channel to said any one media pair.

25. The system according to claim 21, wherein said at least one selector is adapted to select from a plurality of predetermined channel and media pair assignments, a particular one of said channel and media pair assignment.

26. The system according to claim 21, wherein said at least one selector is adapted to:

designate a first combination of said channel assigned to said any one media pair as a communication channel and media pair; and

designate a second combination of said channel assigned to said any one media pair as a control channel and media pair.

27. The system according to claim 26, wherein said at least one controller is adapted to transfer communication traffic via said communication channel and media pair.

28. The system according to claim 27, wherein said at least one controller is adapted to transfer control information via at least one of said communication channel and media pair.

29. The system according to claim 28, wherein at least one controller associated with a second device is adapted to:

monitor at least one of said communication channel and media pair by a second device; and

determine said selected any one channel assigned to said any one media pair.

30. The system according to claim 29, wherein said control information is at least one of authentication information, encryption information, channel setup information and link provisioning and link maintenance information.